

WHAT IS CLAIMED IS:

1 1. A hinge mechanism, comprising: a first elongated hinge member having a
2 generally c-shaped cross-section in the plane transverse to the length of the first member; and
3 a second elongated hinge member having a mating generally c-shaped cross-section in the
4 plane transverse to the length of the second member; and

5 the first and second hinge members further comprising first, second and third sections
6 in the transverse plane, the first and second sections having different radii and the third
7 section being a generally straight lip and defining an opening adjacent the first section, such
8 that the hinge pivots over a wide arc and at one limit of pivotal movement the inner surface
9 of the first hinge member is captured against the inner surface including the lip of the second
10 hinge member and at the opposite limit of pivotal movement the outside surface of the first
11 hinge member is captured against the inner surface including the lip of the second hinge
12 member, providing approximately 180° of rotation of the hinge members between the limits
13 of pivotal movement.

1 2. A window cover system, comprising: a traverse track; a plurality of carriers or
2 trolleys captured by the track for traversing along the track; an array of vertically oriented
3 slats mounted to and suspended from the carriers for opening and closing traversing
4 movement along the track, the slats mounted to the carriers at suspension points located
5 approximately at the horizontal center of gravity of the slats; and a plurality of hinges
6 longitudinally joining the vertically oriented slats, said hinges comprising a first generally
7 c-shaped hinge member extending along at least a section of the length of a first of adjacent
8 slats and a second mating generally c-shaped hinge member extending along at least a section
9 of the length of the second of the adjacent slats, said hinges further comprising first, second
10 and third sections, the first and second sections having different radii and the third section
11 being generally straight and defining an opening adjacent the first section, such that the hinge

12 pivots over a wide arc and at one limit of pivotal movement the inner surface of the first
13 hinge member is captured against the inner surface of the second hinge member and at the
14 opposite limit of pivotal movement the outside surface of the first hinge member is captured
15 against the inner surface of the second hinge member.

1 3. The window cover system of claim 2, wherein the hinge extends along
2 substantially the vertical length of the blind.

1 4. The window cover system of claim 2, wherein the hinge extends along at least
2 one section along the vertical length of the blind.

1 5. The window cover system of claim 2, further comprising a plurality of
2 retainers, each retainer comprising an elongated member positioned over an associated slat,
3 an end section covering the hinge at the end of the slat, and means joining the member to the
4 slat.

1 6. A window cover system, comprising: a traverse track; a plurality of carriers or
2 trolleys suspended from the track; a blind comprising an array of vertically oriented slats
3 suspended from the carriers for opening and closing traversing movement along the track;
4 and first and second hinges alternately joining adjacent slats longitudinally along at least
5 a first longitudinal section of the slats;

6 the first hinge comprising a first hinge member extending longitudinally along a first
7 edge of a first of the adjacent slats, the first hinge member having a generally c-shaped cross-
8 section in the plane transverse to the length of the first slat and a second mating hinge
9 member extending longitudinally along a first edge of the second of the adjacent slats, said
10 second hinge member having a generally c-shaped cross-section in the plane transverse to

11 the length of the second slat, said hinge members further comprising first, second and third
12 sections, the first and second sections having different radii and the third section being
13 generally straight and defining an opening adjacent the first section, such that the hinge
14 pivots over a wide arc and at one limit of pivotal movement the inner surface of the first
15 hinge member is captured against the inner surface of the second hinge member and at the
16 opposite limit of pivotal movement the outside surface of the first hinge member is captured
17 against the inner surface of the second hinge member; and

18 the second hinge comprising a hollow stabilizer member elongated transverse to the
19 plane of the blind and a head comprising a plurality of hinge socket members, including at
20 least a pair of hinge socket members on opposite sides of the head; and the slats on opposite
21 sides of and adjacent the opposite side hinge socket members having head sections extending
22 along the edges of said opposite side slats adjacent to and captured by said opposite side
23 hinge socket members.

1 7. A window cover system, comprising:

2 a traverse track;

3 a plurality of carriers or trolleys suspended from the track;

4 a blind comprising an array of vertically oriented blind slats suspended from the
5 carriers for opening and closing traversing movement along the track, each blind slat having
6 a first c-shaped slat hinge member formed along one edge thereof; and

7 at least one spacer device extending horizontally along the array of blind slats, the
8 spacer device comprising a plurality of relatively short spacer slats of lesser height than the
9 blind slats, vertically oriented side-by-side, and first and second spacer hinge mechanisms
10 alternately joining adjacent slats;

11 the first spacer hinge mechanism comprising a first generally c-shaped spacer hinge
12 member extending along the length of a first of the adjacent spacer slats and a second mating
13 generally c-shaped spacer hinge member extending along the length of the second of the
14 adjacent spacer slats; said spacer hinge members further comprising first, second and third
15 sections, the first and second sections having different radii and the third section being
16 generally straight and defining an opening adjacent the first section, such that the spacer
17 hinge pivots over a wide arc and at one limit of pivotal movement the inner surface of the
18 first hinge member is captured against the inner surface of the second hinge member and at
19 the opposite limit of pivotal movement the outside surface of the first hinge member is
20 captured against the inner surface of the second hinge member;

21 the second hinge mechanism comprising an elongated stabilizer member transverse
22 to the plane of the blind and a head comprising a plurality of hinge members, including a c-
23 shaped head hinge member formed along one edge thereof adjacent the slat blind and at least
24 a pair of hinge socket members on opposite sides of the head for receiving the enlarged heads
25 along the outside edges of the spacer pairs;

26 the spacer pairs having opposite side, end edges comprising enlarged heads; and

27 the head of the second hinge mechanism further comprising a c-shaped hinge member
28 extending longitudinally along the stabilizer member; the c-shaped hinge member further
29 comprising first, second and third sections, the first and second sections having different radii
30 and the third section being generally straight and defining an opening adjacent the first
31 section for receiving the c-shaped slat hinge member of an associated blind slat.

1 8. The window cover system of claim 7, wherein the hinge extends along
2 substantially the entire vertical length of the blind.

1 9. The window cover system of claim 7, wherein the hinge extends along at least
2 one section along the vertical length of the blind.

1 10. The window cover system of claim 7, further comprising a plurality of said
2 horizontally extending spacer devices, mounted at spaced vertical positions along the blind.

1 11. The window cover system of claim 7, further comprising a plurality of retainer
2 caps each positioned at the end of a head of an associated stabilizer member, and means
3 joining the retainer cap to the stabilizer member.

1 12. A dual blind window cover system, comprising:

2 a traverse track;

3 a plurality of carriers or trolleys captured within and suspended from the track;

4 a first blind comprising a plurality of vertically oriented blind slats suspended from
5 the carriers for opening and closing traversing movement of a free end of the first blind along
6 the track, each blind slat having an enlarged head formed along one edge thereof;

7 a plurality of hinge mechanisms, each comprising (a) a stabilizer member elongated
8 transverse to the plane of the blinds and (b) at least a first c-shaped hinge member extending
9 longitudinally along the stabilizer member; the c-shaped hinge member comprising first,
10 second and third sections, the first and second sections having different radii and the third
11 section being generally straight and defining an opening adjacent the first section for
12 pivotally capturing the head of an associated blind slat; and

13 a pleated blind comprising vertically oriented pleats, and means fastening the pleats
14 to the stabilizer members, whereby a free end of the pleated blind moves in unison with the
15 first blind.

1 13. The dual blind window cover system of claim 12, wherein the enlarged head
2 of the blind slats comprises: a second generally c-shaped hinge member extending
3 longitudinally along the length of the blind slat, said second hinge member comprising first,
4 second and third sections, the first and second sections having different radii and the third
5 section being generally straight and defining an opening adjacent the first section; and
6 wherein

7 the first hinge member and the second hinge member are of a size such that the first
8 hinge member captures the second hinge member for pivotal movement within the first hinge
9 member, pivotally capturing the associated slat blind to the hinge mechanism such that the
10 hinge mechanism and the slat pivot over a wide arc and at one limit of pivotal movement the
11 inner surface of the male hinge member is captured against the inner surface of the female
12 hinge member and at the opposite limit of pivotal movement the outside surface of the male
13 hinge member is captured against the inner surface of the female hinge member.

1 14. The dual blind window cover system of claim 13, wherein the pleats of the
2 vertical pleated blind are folded pleats.

1 15. The dual blind window cover system of claim 14, wherein the fastening means
2 comprise longitudinal tabs along the pleats and slits in the stabilizer members for capturing
3 the tabs.

1 16. The dual blind window cover system of claim 14, wherein the stabilizer
2 members include longitudinal channels and the fastening means comprise longitudinal beads
3 capturing the pleats to the channels.

1 17. The dual blind window cover system of claim 13, wherein the pleats of the
2 vertical pleated blind are roll pleats.

1 18. The dual blind window cover system of claim 17, wherein the fastening means
2 comprise rivets attaching the pleats to the stabilizer members.

1 19. The dual blind window cover system of claim 17, wherein the fastening means
2 comprise longitudinal beads capturing the pleats to channels formed along the stabilizer
3 members.

1 20. The dual blind window cover system of claim 19, wherein the stabilizer
2 members comprise longitudinal channels on opposite sides thereof and the roll blind
3 comprises separate vertically elongated panels having opposite longitudinal edges, the panels
4 having beads formed along opposite longitudinal edges, and the beads being captured in the
5 channels of the adjacent stabilizer members.

1 21. The dual blind window cover system of any of claims 12-20,

2 wherein the traverse track comprises two horizontal tracks extending along the length
3 of travel of the blinds and located one in front of the other;

4 wherein each carrier comprises at least one wheel rotatably captured within one of the
5 horizontal tracks for traversing the slat blind along the traverse track; and

6 further comprising a plurality of stiffeners, individual stiffeners comprising a member
7 having a lower leg and an upper leg joined to the lower leg and extending upward at an angle
8 to the vertical; a wheel mounted to the upper leg spaced vertically and horizontally from the
9 lower leg and captured within the second of the horizontal tracks; and means attaching the
10 lower leg to the stabilizer member, whereby the stiffeners tend to align the blinds, and the
11 stabilizer members, stiffeners and blinds move in unison along the traverse track.

1 22. The dual blind window cover system of any of claims 12-20,

2 wherein the traverse track comprises two horizontal tracks extending along the length
3 of travel of the blinds and located one in front of the other;

4 wherein each carrier comprises at least one wheel rotatably captured within one of the
5 horizontal tracks for traversing the slat blind along the traverse track;

6 further comprising a plurality of first stiffeners mounted to stabilizer members
7 intermediate the ends of the blinds; individual stiffeners comprising a member having a lower
8 leg and an upper leg joined to the lower leg and extending upward at an angle to the vertical;
9 a wheel mounted to the upper leg spaced vertically and horizontally from the lower leg and
10 captured within the second of the horizontal tracks; and means attaching the lower leg to the
11 stabilizer member; and

12 further comprising a second stiffener mounted to a stabilizer member at the free end
13 of the blinds, comprising

14 a first generally vertical member having a wheel mounted thereto spaced
15 vertically from the associated stabilizer member and captured within the second of the
16 tracks; and means attaching the first member to the associated stabilizer member; and

17 a second angled member comprising: a lower leg; means attaching the lower
18 leg to the associated stabilizer member; an upper leg joined to the lower leg and
19 extending upward at an angle to the vertical; and a wheel mounted to the upper leg
20 thereof, captured within the second of the horizontal tracks and spaced horizontally
21 from the first member wheel, whereby the stiffeners tend to align the blinds, and the
22 stabilizer members, stiffeners and blinds move in unison along the traverse track.

23. The dual blind window cover system of any of claims 12-20,

 wherein the traverse track comprises three horizontal tracks extending along the length
of travel of the blinds with a first track located behind the second and third tracks and the
second and third tracks in an under and over relationship;

 wherein each carrier comprises at least one wheel rotatably captured within said first
track for traversing the slat blind along the traverse track; and

 further comprising a plurality of stiffeners mounted to selected stabilizer members,
individual stiffeners comprising:

 a first generally vertical member having a wheel mounted thereto spaced
vertically from the associated stabilizer member and captured within the second of the
three horizontal tracks; and means attaching the first member to the associated
stabilizer member; and

a second angled member comprising: a lower leg; means attaching the lower leg to the associated stabilizer member; an upper leg joined to the lower leg and extending upward at an angle to the vertical; and a wheel mounted to the upper leg thereof, captured within the third of the horizontal tracks and spaced vertically and horizontally from the first member wheel, whereby the stiffeners tend to align the blinds, and the stabilizer members, stiffeners and blinds move in unison along the traverse track.